

Beyond Hearing: Where Real-World and Online Support Meet

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A random sample survey of an online self-help group for people with hearing loss was conducted. Two factors predicted active participation in the group: a lack of real-world social support and being comparatively effective (having less disability, coping more effectively, and using real-world professional services). More active participation in the group was associated with more benefits from the group and stronger reports of community orientation. The authors also found evidence that integration of online and real-world support (if it existed) benefited participants. That is, if supportive family and friends in the real world shared the online group with participants, participants reported above average benefits, whereas if supportive family and friends were uninvolved in the online group, participants reported below average benefits.

One of the best parts of *Beyond Hearing* is talking to the few friends I have on the list who I know off list. . . .

That opinion was offered to us by a member of an Internet support group for people with hearing loss. If the statement seems incongruous, it is probably because today's dominant narrative about social support on the Internet focuses on its value when real-world support is unavailable (see Davison, Pennebaker, & Dickerson, 2000; Galegher, Sproull, & Kiesler, 1998; McKenna & Bargh, 1998; Mickelson, 1997). In this article, we draw on theory from the field of social network analysis to explore the role of Internet support versus real-world support. We use empirical evidence from a random sample survey and follow-up survey of an

online discussion group for people with hearing loss. We show that although compensatory online support is associated with benefits in this group, leveraged online support—a mixing of real world and online support—is associated with even more benefits.

Social Support in Context

Ideally, people with serious problems find information, encouragement, and solace close at hand—in their families, in their close friendships, in their community, or in their relationships with their own doctors or other experts. Friends, families, and professional authorities are accessible, informative, and supportive. Nearly 25% of U.S. adults, however, have social networks of one person or less and thus have inadequate or marginal social support (Marsden, 1987, p. 125). Finding support may be difficult if the affliction is uncommon, hidden, or culturally devalued (Frable, 1993; McKenna & Bargh, 1998; Mickelson, 1997) or if those afflicted have dysfunctional patterns of communication in their social network (Sarason, Sarason, Hacker, & Basham, 1985).

Even if a person does have compassionate friends or family members and skilled caregivers, these relationships are almost always circumscribed by time, by expectations of reciprocity, or by reluctance to discuss personal

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problems. People may believe that only those in the same situation can be truly understanding. Those they know may have limited information. To overcome limitations in sources of help in the existing social network, many people seek information and advice in self-help books, face-to-face support, self-help groups, and, since the 1980s, from resources on the Internet.

For a person with a computer and Internet access, the Internet offers low-cost access to information, from medical databases to topical books to professional advice. The Internet also offers access to online help from people in the form of self-help support groups, electronic gatherings of people who discuss issues and provide help to their participants (Boberg et al., 1995; Brennan, Moore, & Smyth, 1995; Davison & Pennebaker, 1997; Furlong, 1989; Galegher et al., 1998; Gustafson et al., 1993; McKenna & Bargh, 1998; Mickelson, 1997; Schneider & Tooley, 1986; Sharf, 1997; Winzelberg, 1997). Internet support groups vary in format, but most are unsponsored and are run by nonprofessionals; they have no entrance criteria except for online access. There are more than 500 support groups on the Internet, many of which are accessed through Web pages or bulletin boards (e.g., Usenet), mailing lists (e.g., LISTSERV), and chat sites (e.g., Internet Relay Chat; <http://psychcentral.com>). A primary discourse structure through which support is provided and received in these groups is the question and answer "thread," in which one person posts a question and several people reply to it. Every reader can see the original post and all the replies; any reader can post another reply or start a new thread.

A potentially valuable feature of group discussion in Internet support groups for those who are isolated, stigmatized, or lack supportive friends, family, or professional helpers is that they have the choice of communicating in several new ways. For writers, or "posters," Internet support groups offer the possibility of presenting their ideas, thoughts, and feelings to others like themselves. Those who reply can write to everyone or send private e-mail or "whisper" in a chat room to the original poster. By using nicknames and anonymous remailers, posters can participate in comparative safety, without making their true identity known (Sproull & Kiesler, 1986). Readers, or "lurkers," also can participate without revealing any-

thing about themselves, including their presence, to other participants. The geographic diversity of Internet support groups, and the invisibility of readers and comparative anonymity of writers in these groups, imply several important features. These groups offer the possibility of encountering many different perspectives on a problem, of finding people with similar experiences and pain, and, at the same time, of communicating in comparative privacy and psychological safety. For all these reasons, the Internet seems especially suited to, and valuable for, those who lack real-world support.

Many writers (e.g., Davison & Pennebaker, 1997; Furlong, 1989; Galegher et al., 1998; Gustafson et al., 1993; McKenna & Bargh, 1998; Mickelson, 1997) have argued that online support groups will be particularly beneficial to those who lack the opportunity to join real-world groups whose members have similar problems. McKenna and Bargh (1998) studied active participants (posters) in online groups whose members shared socially undesirable attributes. They found greater participation was associated with a greater group identity, more self-acceptance, and lower feelings of social isolation.

An argument can be made that online support groups might not be as valuable for those with existing high levels of support in their social network. Stronger social ties (relationships with family and close friends) generally lead to better social outcomes than do weaker ties (relationships with acquaintances; e.g., Neuling & Winefield, 1988; Putnam, 2000; Wellman & Wortley, 1990). Most online support group relationships, however intensely felt in the moment, are weak ties. Online group members generally belong for awhile and then leave (Butler, 1998). Some survey research indicates that online social relationships, on average, are weaker than off-line relationships (Cummings, Butler, & Kraut, in press; Parks & Roberts, 1998). Time spent in the online group might detract from time and attention in the existing real-world network, thus substituting weak for strong ties.

A recent experimental study of face-to-face support groups for women with breast cancer suggests that substitution effects can occur in real-world support groups. Helgeson, Cohen, Schulz, and Yasko (2000) found that face-to-face educational and peer discussion groups

were beneficial to women with low support from partners or physicians, or who were coping less well than others were. The peer discussion groups were actually detrimental to those with high levels of existing support. The authors speculated that those with high levels of support from their partner or physician may have turned to the new support group instead for advice and intimate discussion, or they may have reevaluated their existing real-world social network.

In sum, previous work suggests that those who lack real-world support might be especially motivated to participate in online support groups and might gain more from their participation than those who already have high levels of real-world social support. On the other hand, an alternative argument can be made about those with existing real-world support. Possibly, the "the rich get richer." There is abundant evidence that those who have social support are generally effective in marshaling social resources, are happier and healthier, and deal with stress more effectively (e.g., Cohen & Wills, 1985; Diener, Suh, Lucas, & Smith, 1999; Mirowsky & Ross, 1989, p. 140; Thoits, 1983; Williams, Ware, & Donald, 1981). If so, these people might obtain even more social benefits from using online support groups than those without these social resources.

In this article we use a random sample survey method to examine the real-world support and functioning of those who participate in, benefit from, and contribute to community in Internet support groups. Is it the case that those who participate most avidly in an Internet support group are those who lack this support in their real-world lives? Given participation, how do these groups help those with and without real-world support? How do those with real-world support use online support resources?

Compartmentalized and Integrated Support

Here, we explore an additional issue that does not arise in respect to most real-world self-help or support groups. That is, in real-world face-to-face support groups, participants typically go to a location that friends or family do not frequent, they agree to speak confidentially, and they do not bring family and friends to the group meetings. With these physical and social boundaries, the support group gains a sense of

privacy and a pool of shared information, but participants' family and friends are left out of the group. In the Helgeson et al. (2000) study, the negative outcomes caused by peer discussion support groups among people with high levels of existing support might have been caused by the participants' substituting closeness and discussion in the support group for closeness and discussion with family and friends. Possibly, negative outcomes would have been prevented or even reversed if real-world support and the support group had been better integrated.

The boundaries of online support groups are more permeable and allow for more cross-network participation than the boundaries of most real-world support groups. Because membership in online support groups is open and virtually invisible, members can easily tell family and friends about the group, invite them to participate, and send them copies of posts and discussion threads. Moreover, in the online world, where the sense of privacy and anonymity is strong, the presence of family and friends within the group need not be intrusive or threatening. In the group with hearing loss that we studied, over 40% of the sample had family and real-world friends in the electronic support group. This gave us an opportunity to explore the positive or negative features of integrated participation, in which real-world network members and online members know one another, and compartmentalized participation, in which the real-world network and online members do not know one another. Here, we ask if it matters whether participation in an Internet support group is compartmentalized, as is typically the case in real-world support groups, or is instead connected through cross-network ties linking online and offline relationships.

The literature on social networks in the real world suggests that the value of compartmentalization versus integration of social ties depends on people's own situation. For those seeking new information about a problem, weak ties to unconnected networks can link them to knowledge that is unavailable in their existing networks (e.g., Lin, Ensel, & Vaughn, 1981). Moving to new, separate social environments also can have value for people whose existing social ties are not working well. For example, low-density, or compartmentalized, networks were more helpful than high-density, integrated

networks for single mothers establishing new role identities through access to unique information, contacts, and role models (McLanahan, Wedemeyer, & Adelberg, 1981). Similarly, low-density, compartmentalized networks with family and real-world friends also enabled women returning to college to be more adaptive (e.g., have higher self-esteem, more positive moods, and fewer illness symptoms) than those with high-density networks because of the support they were able to receive from a different group of people (Hirsch, 1980).

Integrated networks, in contrast, may work better when people's social networks are positive and supportive. For example, integrated networks were helpful for caseworkers in stressful organizations because the integration of family and real-world friends gave them a sense of stability and psychological closeness that those with low-density networks did not have (Albrecht, Irey, & Mundy, 1982). In another study, during a stressful exam period for undergraduate students, those with high-density networks reported having a greater amount of support than those with low-density networks, presumably because of the consistent norms and shared expectations that an integrated support system provided (Hirsch, 1979).

We argue, then, that for many people with existing, strong real-world support, having members of that network observe or participate in the discussions with the online group could prevent destructive substitution effects and foster mutual sharing of advice and information. Time spent in the group would not be time spent away from strong ties but would be a more collaborative social activity.

Hypotheses

We explored two general hypotheses in this research. First, we proposed that those lacking real-world interpersonal support would participate more, benefit more, and show more community orientation to the online support group than would those having existing strong real-world support. In exploring this hypothesis, we measured participants' perceived support from family and friends as well as control variables that were expected to affect participation and benefits, such as participants' degree of disability, perceived effectiveness in coping, and use of alternative real-world and Internet resources.

According to self-efficacy theory (e.g., Bandura, Cioffi, Taylor, & Brouillard, 1988), those with higher self-efficacy should try to get more from the group, which in turn might increase their benefits from participation and encouragement by the group (see, for instance, Orpen, 1995; Tuckman & Sexton, 1991). We examined how these latter factors predicted participants' informational and emotional benefits and helpfulness of the online group as well as participants' community orientation, as evaluated by how much they helped others in the group, whether they stayed in the group, and their group identification.

Second, we proposed that for those with support from family and friends in the real world, having family and friends also participate in the online group would be beneficial to them. This added benefit of a more integrated network interaction would presumably be helpful only to those with supportive family and friends in the first place.

Method

This study was conducted with an online support group, Beyond Hearing, which is a subscription distribution list that has been available on the Internet since 1994. The group is intended to provide a communication vehicle for people who have a hearing loss and who seek to overcome the barriers of hearing loss between themselves, other people, and the environment. Anyone with access to the Internet may join the list by sending a command to Majordomo, a computer program that automatically maintains membership lists. Once subscribed, the member receives via e-mail all messages sent to the list by any member of the group; the member also can send a message to the list, which automatically forwards the message to all other members. Unlike Usenet groups and Web sites, which post messages for the public to view, this mailing list delivers messages directly to an individual's mailbox. The list has approximately 240 members at any time, which makes it comparable in size to other Internet support mailing lists for those with hearing loss. (We identified 10 other electronic groups that included the words *support* and *hearing* in their description. Their size ranged from 67 to 610 group members; $M = 309$, $SD = 208$.) Approximately 25 to 30 messages are posted to Beyond

Hearing each day. Messages focus on hearing and hearing loss, ranging from advice on cochlear implants to complaints from lip-readers trying to understand people who mumble to help for parents whose children have just been diagnosed with serious hearing loss.

The owner of Beyond Hearing made available the entire list of members, allowing us to draw a random sample, and posted a message to members informing them of this project and endorsing its research goals. We sent a 34-item e-mail survey to a random sample of 50% of Beyond Hearing members and then sent a follow-up survey 9 months later to those who answered the first survey. Of the 119 surveys that reached subscribers, 64 were completed and returned, giving us a response rate of 54% for the sample. Respondents and nonrespondents differed in two measurable respects, actual posting frequency and likelihood to remain on the list 3 months later, indicating that respondents were more involved in Beyond Hearing than were nonrespondents, on average. Nine months later, we sent a follow-up survey to the 55 respondents who agreed to have us contact them again, of which we received 40 replies (a 73% response rate). Participants were told the purpose of the study, and its main results were posted to the group afterward.

All measures used in the e-mail survey are described in Table 1. Most items were presented in a forced-choice format (either yes or no) on 5-point scales, with 1 always equal to a more negative or lower degree (e.g., 1 = *not supported*, 5 = *highly supported*).

Results

Respondents

More than half of the respondents were female (56%), were over 45 years of age (59%), were married (64%), and had a college degree (72%). Of the 64 respondents, 88% reported they had a hearing loss; 71% of those described their loss as severe.

Conditions for Real-World Support and Effectiveness

Correlations among variables used in the following analyses are reported in Table 2. Except where noted, all analyses were performed on

data from respondents with a hearing loss ($n = 56$). Most items were not asked for those without a hearing loss ($n = 8$).

We expected that married people, young people (namely, students), and employed people would report more support than others, because they have greater daily contact with others. We entered all demographic factors into a regression model to predict perceptions of being supported by family and friends. The model ($R^2 = .35$) indicated that being married ($b = .39, p < .05$) and being younger ($b = .03, p < .05$) significantly predicted feelings of being supported by family and friends for hearing loss. Other demographic variables did not make a significant difference (though all were in the expected direction). Participants' hearing loss also was negatively related to their feelings of having support from family and friends ($r = -.42, p < .01$), perhaps because those with more hearing loss were also less likely to be married ($r = -.22$). More hearing loss also was negatively associated with feeling effective ($r = -.31, p < .05$).

Relationships of Real-World Support, Effectiveness, and Other Help Sources With Participation

Hypothesis 1 predicted more participation in Beyond Hearing among those with less real-world support. We created a regression model predicting participation in Beyond Hearing, using participants' perceived support from family and friends, perceived effectiveness in coping with their hearing loss, and other sources of help as predictor variables ($R^2 = .57$). As predicted, less real-world support from family and friends predicted more participation in Beyond Hearing ($b = -.79, p < .01$). However, higher effectiveness also predicted more participation ($b = .39, p < .01$). Also, using some other sources of help in the past year generally predicted more participation. That is, using professional medical help ($b = .66, p < .05$), using professional counseling ($b = 1.1, p < .01$), and participating in another electronic support group ($b = .87, p < .01$) predicted more participation in Beyond Hearing. Using self-help books and the Web were not significantly related to participation. One source of help—face-to-face support groups—was marginally and negatively related to more participation ($b =$

Table 1
Measures Used in the Survey of Beyond Hearing Members

Variable	Item or measure
Life situation	Fill in blank or check off list: gender, age, level of education, marital status, employment status, household income, number of persons in the household.
Disability	Do you have a hearing loss? How severe is your hearing loss now?
Effectiveness in coping	How effective do you feel in coping with your hearing loss? How do you feel you are coping with your problems compared with most other people in Beyond Hearing? How uncertain do you feel about how to deal with your hearing loss?
Alternative sources of help	In the past year have you used (yes/no): Professional medical help? Professional counseling? Self-help books? Face-to-face self-help group? Electronic support group other than Beyond Hearing? Information on the World Wide Web?
Real-world support	How supported do you feel by your family and friends for your hearing loss?
Social network integration	Do any of your family or real-world friends also read Beyond Hearing?
Online group participation	How many times a week did you use a computer to connect with the Internet from home (during the last month)? How many times in the past week did you read any messages from Beyond Hearing? How many times in the past week did you send any messages to Beyond Hearing? I save most of the messages from Beyond Hearing (yes/no).
Personal benefits	
General benefit	All things considered, how helpful is this group to you?
Information benefits	I have received practical tips. I have added to my knowledge about the cause and treatment of hearing loss. I am better able to criticize shortcomings of professional services. (All yes/no)
Emotional benefits	My emotional stress is reduced. My life has taken on new meaning. I feel I can be myself. (All yes/no)
Community orientation	
Helping others	I have given helpful advice to other group members (yes/no). I have given supportive comments to other group members (yes/no). ($r = .49$)
Group identity (follow-up survey only)	How much do you feel you are a part of Beyond Hearing? To what extent do you use the word "we" to describe Beyond Hearing? ($r = .82$)
Remaining in the group	Was respondent subscribed to list 3 months and 9 months following the initial survey?

Note. Multiple items to measure a concept were summed if they loaded on one factor following factor analysis (using eigenvalue greater than 1 as the standard). Items with skewed distributions were standardized (log) prior to summing.

Table 2
Correlations of Main Variables

Variable	1	2	3	4	5	6	7	8	9	10	11	12	13
1. Age	—												
2. Married	.09	—											
3. Hearing loss	.12	-.14	—										
4. Effective	.13	.14	-.32	—									
5. Real-world support	-.13	.28	-.41	.35	—								
6. BH participation	-.08	-.13	-.17	.32	-.07	—							
7. Family and friends in BH	-.01	-.02	-.15	-.02	.20	.10	—						
8. Informational benefits	.08	.04	.01	-.01	-.07	.30	.20	—					
9. Emotional benefits	-.13	-.12	-.07	-.03	-.11	.15	.14	.34	—				
10. Helpful overall	-.08	-.09	-.06	.03	-.04	.32	.22	.56	.52	—			
11. Helped others	-.10	.13	-.15	.24	.04	.34	.26	.44	.30	.37	—		
12. 3 mo. remain	.00	.08	-.03	-.01	.13	-.15	-.01	-.16	-.26	-.17	.04	—	
13. 9 mo. remain	.07	.08	-.09	-.16	.00	-.22	.13	.10	.27	.09	-.06	.02	—
14. Group identity	-.06	-.25	-.08	-.04	-.13	.37	.33	.68	.61	.75	.49	-.28	.28

Note. Scores are based on those with hearing loss. Group identity correlations were calculated on follow-up respondents only. BH = Beyond Hearing online support group.

-.54, $p = .06$). There were no interaction effects.

In sum, our data suggest two independent processes leading to more active participation in the online support group. First, those lacking real-world support participated in Beyond Hearing more than those who already had strong real-world support. Second, those who were more effective (generally with less hearing loss) and who sought out professional services and other electronic groups also participated more vigorously. The result made for an interesting, heterogeneous mix of active participants in the group.

Results of Participation: Personal Benefits

We examined whether more participation in Beyond Hearing was associated with greater overall helpfulness and information and emotional benefits received through the group. A multivariate analysis of variance (MANOVA) model used participation in Beyond Hearing (all participants) to predict three measures of benefits (within participant). The model was significant, with participation predicting benefits, $F(1, 62) = 8.7, p < .01$. There were no interactions of participation with type of benefit.

Hypothesis 2 predicted that benefits can increase when real-world family and friends are members of one's online support group. To the equation above, we added the measure of social network integration ("Do any of your family or

real-world friends read Beyond Hearing?"). This model was significant, with participation predicting benefits, $F(1, 61) = 7.1, p < .01$, and the presence of real-world family and friends in the group also predicting benefits, $F(1, 61) = 4.0, p = .05$. There were no interaction effects.

It would make sense (and be consistent with the literature) if the benefits of having family and friends in the online group were confined to those who felt supported by real-world family and friends. After all, if one's family and friends are not supportive, then adding them to one's online world should be neither likely nor helpful. We therefore added the measure of real-world social support to the equation above and examined the interaction of real-world social support with having family and friends in the online group. In brief, we predicted personal benefits of participation from (a) active participation in Beyond Hearing, (b) family and friends in the group, (c) feeling supported by family and friends, and (d) the interaction of (b) and (c). We obtained once again a significant effect of participation and of having family and friends in the group; there was additionally a marginal triple interaction of Type of Benefit \times Feeling Supported by Real-World Family and Friends \times Family and Friends in the Group, $F(2, 48) = 2.5, p < .10$. The reason for the interaction was that emotional benefits from having family and friends in the online group accrued only to those who felt supported by real-world family and friends. Furthermore,

Table 3
Emotional Benefits of Online Support Group as a Function of Support From Real-World Family and Friends and Family and Friend Participation

	Family and real-world friend participation	
	No	Yes
Supportive family and friends		
No	-.03	-.02
Yes	-.34	.35

Note. Scores were standardized such that 0 represents average benefits for the sample as a whole. For low real-world support (below the median), $n = 29$. For high real-world support (median score or above), $n = 35$.

those who felt supported by real-world family and friends but did not have any of them in the online group actually showed lower emotional benefit scores than others. (See Table 3.) These results are consistent with the Helgeson et al. (2000) study cited earlier.

Although the sample was small, for purposes of exploration we divided the participants into two groups: those who were below the median in real-world social support and those who were above the median. Note that this split tends to be confounded with effectiveness, because those who were more effective in coping also tended to feel supported by family and friends in the real world, $\chi^2(1, N = 63) = 6.3, p = .01$. For those who scored low in real-world social support, more online participation was associated with more benefits, $F(1, 26) = 4.7, p < .05$, and having family and friends in the group did not increase these benefits. However, for those who scored high in real-world social support, things were a bit more complicated. Participation alone predicted benefits, $F(1, 33) = 4.02, p = .05$, but when family and friends in the online group were added to the equation, the presence of family and friends marginally predicted benefits, $F(1, 32) = 3.24, p = .08$, and the effect of participation was no longer significant ($p = .16$).

Results of Participation: Reports of Community Behavior

We expected that those who participated more heavily in the online support group would not only experience personal benefits but also become more committed to, or identified with,

the online community. One measure of community orientation was giving advice or support to others online. Participation strongly predicted self-reports of giving help to others ($b = .27, p < .01$). When we added the presence of family and real-world friends in the group to the model, both participation ($b = .24, p < .01$) and having family and real-world friends in the group ($b = .44, p < .05$) predicted reported help to others. There was no interaction.

To pursue whether some participants were “givers” or “takers,” we constructed a model examining whether those high or low in effectiveness at coping and real-world support differed in the degree to which they helped others, controlling for their participation. Individual effectiveness at coping did not predict self-reports of giving help to others (although we have already seen that those high in effectiveness were more likely to report participating, which in turn predicted reports of helping others). However, existing real-world support did predict reported help to others; those who had more real-world support from family and friends were also more likely to say they helped others in the online group ($b = .57, p < .01$).

We gave a follow-up survey to the subsample of original respondents who had given us permission to contact them again. Of the original sample of 64, 40 people answered the follow-up survey, 16 of whom said they still subscribed to Beyond Hearing. We had added two items to the follow-up survey to measure group identity, “How much do you feel you are a part of Beyond Hearing?” and “To what extent do you use the word ‘we’ to describe Beyond Hearing?” Participation at the time of the original survey marginally predicted group identity 9 months later ($b = .21, p = .08$). However, when added to the model, having family and friends in the online group mediated the effect of participation ($p = .15$) and predicted group identity 9 months later ($b = .87, p < .01$). An additional analysis examining the impact of having supportive family and friends indicated that the overall positive effect of having family and real-world friends in the online group was reversed for those who lacked real-world supportive family and friends ($b = -.63, p < .05$).

Approximately 28% of the original sample still subscribed to Beyond Hearing after 3 months, and as noted above, 25% still subscribed after 9 months. We examined how par-

ticipation led to staying or not staying in the group 3 months and 9 months later in a repeated measures analysis (MANOVA). Participation as reported in the original survey marginally influenced remaining in the group after 3 and 9 months, $F(1, 62) = 3.4, p = .07$. Preexisting support or family and friends in the online group did not predict remaining in the group, but those who initially reported lower effectiveness in coping (and had more hearing loss) were much more likely to remain in the online group than others were (32% vs. 21% after 3 months, and 38% vs. 12% after 9 months), $F(1, 60) = 5.9, p < .05$. Hence, remaining in the online group seemed to reflect personal need as much as or more than it did community behavior, group identity, or self-efficacy.

Discussion

This study of members of one electronic support group demonstrated that those participants with relatively low levels of real-world support particularly felt they obtained emotional and informational benefits from the group. They participated more and were more likely than others to remain members of the group over time. These results (like those of previous surveys) should be interpreted with some caution, as real-world support and online outcomes for nonrespondents, who participate less in the group, are unknown, and because cross-sectional surveys cannot be used to surmise causality. However, the pattern of results is consonant with results of some previous empirical research on other electronic support groups (e.g., McKenna & Bargh, 1998; Mickelson, 1997). Also, a study of deaf people showed that those who had more deaf friends and identified more with the deaf community had higher self-esteem (Bat-Chava, 1994).

This study also documented a previously unstudied phenomenon in some electronic support groups, namely the presence and role of family and real-world friends in the electronic group. Forty-three percent of respondents reported having family and real-world friends in the group; this group also was more likely to report that their family and friends were supportive. Such a substantial representation of a person's social network within a support group is uncommon in the real world. We documented that the value of having an integrated social network

depended on the supportiveness of the real-world network. Participants with a supportive real-world network derived electronic benefits from having members of that network participate in their electronic group; they were also more likely to help others in the online group. Participants whose real-world network was less supportive did not derive comparable benefits from having members of that network participate in their electronic group.

It is possible that the likelihood of having family and friends in the group will be high only when real-world network members in the online group share the same problem or goals as those exchanging support, as was true in the hearing loss online group we studied. Only 8 respondents from the online group reported having no hearing loss. Of those 8, only 2 (25%) had family and friends in the group. Of the other 56 respondents with a hearing loss, 26, or 46%, had family and friends in the group. This phenomenon seems unlikely to be repeated in support groups focused on topics such as alcoholism, chronic fatigue syndrome, and obesity, or in hobby groups whose members have highly specialized passions (such as old Jeeps, blue pottery, or space music)—problems or interests that family and friends do not share. Some interesting topics for future research are how people find ways of integrating their real world and online networks and the conditions under which this integration is beneficial to them.

Fifteen years ago the Internet was populated almost exclusively by a very small number of young, White male computer scientists. Today, as more people connect to the Internet, its social diversity is increasing and is coming to resemble that of the real world. This is a salutary development for citizens as they acquire convenient, low-cost access to new sources of information and groups. This is not to say that access guarantees positive social outcomes. Erroneous information, dysfunctional groups, and negative behaviors can certainly be found on the Web, as in the real world. Yet on balance, the potential seems positive.

And it does so as well for social scientists. Many familiar social processes are now beginning to play out online. Thus, nuanced scholarly perspectives on human behavior in the real world can increasingly be brought to bear on understanding online behavior. Moreover, these behaviors are relatively accessible to research-

ers through such methods as analysis of messages or electronic surveys (e.g., McKenna & Bargh, 1998). But it would be a mistake to assume that new perspectives are unneeded. Whereas more of the real world can be found online, the electronic world offers opportunities for new social processes and configurations. As we have shown in this article, for example, family and friends can participate in electronic support groups in ways unlikely to occur in the real world. Old theory is relevant but insufficient. The opportunity for new work is exciting.

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